

Prof. Dr. Roland Lill

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Curriculum Vitae

University Studies

1995 Habilitation in Biochemistry and Physiological Chemistry, Universität München
1981-1986 PhD (Dr. rer. nat.) in Biochemistry, Universität München
1975-1980 Studies in Chemistry, Diploma, Universitäten Ulm and München

Academic career

2020- Chairman of Life Sciences, German Academy of Sciences Leopoldina
2016-2022 Member of DFG Priority Program SPP 1927 "*Iron-sulfur for Life*"
2016- Senator of the German Academy of Sciences Leopoldina
2014-2020 Member of the Senate of Deutsche Forschungsgemeinschaft (DFG)
2014-2020 Member of DFG Priority Program SPP 1710 "*Dynamics of Thiol-based Redox Switches in Cellular Physiology*"
2013- Advisory Board of Biochemie Zentrum BZH, Universität Heidelberg
2013-2014 Member of the Board Advisory Group of the MRC Mitochondrial Biology Unit, Cambridge, UK
2012-2020 Principal investigator of DFG Collaborative Research Center SFB 987, "*Microbial Diversity in Environmental Signal Response*", Marburg
2010- Member of the LOEWE Center for Synthetic Microbiology, SYNMIKRO
2008 Full Professor (W3), Universität Marburg
2007-2016 Advisory board member of the German Society for Biochemistry and Molecular Biology GBM
2007-2008 Offer of a W3 Professorship from Universität Heidelberg (ZMBH), declined
2006-2015 Executive board member of the DFG Graduate Research School 1216
2005-2006 Referee for Elite Network of Bavaria and Fonds der chemischen Industrie (FCI)
2003-2014 Coordinator of the DFG Collaborative Research Center SFB 593 "*Mechanisms of cellular compartmentalisation and the relevance for disease*"
2003-2012 Principal investigator of DFG Collaborative Research Center Transregio SFB TR1, "*Endosymbiosis-From prokaryotes to eukaryotic organelles*", München-Düsseldorf-Marburg
2003-2012 Panel member of the study section 'Biochemistry' of DFG
2002-2011 Chairman of the examination panel for Human Biology studies at Philipps Universität Marburg
2002-2006 Co-chair of EU-sponsored Concerted Action on "*Mitochondrial Biogenesis and disease – MitEURO*"
2002-2008 Full Professor (C4), Universität Marburg
2002 Offers declined for C4 Professorships from the Universities of Regensburg, Kassel and München
1996-2002 Principal investigator of DFG Collaborative Research Center SFB 286, Marburg
1996-2002 Associate Professor (C3), Universität Marburg
1996-2003 Coordinator of the '*Mitochondria Project*' (MITOP), a research unit of the German Ministry of Research and Technology
1993-1996 Principal investigator of DFG Collaborative Research Center SFB 184, München
1990-1996 Senior Research Assistant, Universität München (Prof. W. Neupert)
1987-1989 Post-doctoral Fellow of DFG at the University of California, Los Angeles, USA (Prof. W. Wickner)
1986-1987 Post-doctoral Fellow, Universität München (Prof. W. Wintermeyer)
1982-1985 Research Assistant, Universität München (Profs. W. Wintermeyer, H.G. Zachau)

Awards and Honors

- 2019 Paul-Ehrlich Prize of the International Biolron Society IBIS
- 2016-2021 Reinhart Koselleck Grant, DFG
- 2015 Lecture at Gairdner Symposium "Frontiers in Cell Biology", Edmonton Canada
- 2014 Luigi Sacconi Medal of Italian Chemical Society and Luigi Sacconi Foundation
- 2014 Albrecht-Kossel Prize of German Chemical Society, GDCh
- 2013 EMBO Member
- 2013 Distinguished Lecture at the Lady Davis Research Institute, McGill University, Montreal Canada
- 2010,14,18 Prizes for 'Best Teaching'
- 2010 Feldberg Foundation Prize
- 2009 Aline & James Orten Memorial Lecture, Wayne State University, Detroit, USA
- 2009-2014 Max-Planck fellow of Max-Planck Society
- 2007 Member of the German Academy of Sciences Leopoldina
- 2003 Gottfried-Wilhelm Leibniz Prize of DFG
- 2003 H.W. Rand Fellowship of Marine Biology Laboratories, Woods Hole, MA USA
- 1987-1989 Postdoctoral Fellowship of DFG at Molecular Biology Institute, University of California at Los Angeles, USA

- Associate Editor of Current Genetics, European Journal of Cell Biology, Reviews of Physiology, Biochemistry and Pharmacology, BBA – Molecular Cell Research
- Advisory Editorial Board of The Journal of Biochemistry, EMBO Reports, Microbial Cell

- 2006 , 2012 Guest Editor, Biochim. Biophys. Acta, Mol. Cell Research (Metals in Biology)
- 2015 Guest Editor, Biochim. Biophys. Acta, Mol. Cell Research (Iron-sulfur proteins)
- 2015 Guest Editor, Eur. J. Cell Biol. Special Issue (Mechanisms of cell compartmentalization)

Scientific meetings organised (selection)

- 2019 EMBO Practical Course on 'Techniques for studying iron in health and disease'
- 2017 Gordon Research Conference on "Cell Biology of Metals", Mount Snow, West Dover, VT, USA (Chair)
- 2015 Spring Meeting of the German Society of Biochemistry and Molecular Biology GBM, "Metals in Biology" (Chair)
- 2014 International meeting of the Collaborative Research Center (SFB) 593, Marburg, Germany (Chair)
- 2012 International meeting of the Collaborative Research Center (SFB) 593, Marburg, Germany (Chair)
- 2011 Annual meeting of the German Society of Biochemistry and Molecular Biology GBM, Molecular Life Sciences, Frankfurt Germany (Co-organizer)
- 2009 FEBS Advanced Lecture Course on "Mitochondria in Life, Death and Disease", Aussois, France (Chair)
- 2009 International meeting of the Collaborative Research Center (SFB) 593, Marburg, Germany (Chair)
- 2008 Mini-Symposium on "Synthetic Microbiology", Marburg, Germany (Co-chair)
- 2008 Annual meeting of the German Society of Cell Biology DGZ, Marburg, Germany (Chair)
- 2005 International meeting of the Collaborative Research Center (SFB) 593, Marburg, Germany (Chair)

- 2004 International Cell Biology Symposium “Cell compartments”, Marburg, Germany (Chair)
- 2003 *Dies Academicus* on “Cell organelles and associated diseases”, Marburg, Germany (Chair)
- 2002 DFG-sponsored international congress on “Iron-sulfur proteins: Structure, function and biogenesis”, Marburg, Germany (Chair)
- 1992 International meeting of the Collaborative Research Center (SFB) 186, München, Germany (Co-chair)

Ten most important publications

- 1) Kispal, G., Csere, P., Prohl, C. & **Lill, R.** (1999). The mitochondrial proteins Atm1p and Nfs1p are required for biogenesis of cytosolic Fe/S proteins. **EMBO J.** **18**, 3981-3989.
- 2) Mühlhoff, U., Gerber, J., Richhardt, N. & **Lill, R.** (2003). Components involved in assembly and dislocation of iron-sulfur clusters on the scaffold protein Isu1p. **EMBO J.** **22**, 4815-4825.
- 3) Goldberg, A.V.*, Molik, S.*, Tsaousis, A.D., Neumann, K., Kuhnke, G., Delbac, F., Vivares, C.P., Hirt, R.P., **Lill, R.#** & Embley, M.# (2008). Localization and functionality of microsporidian iron-sulphur cluster assembly proteins. **Nature** **452**, 624-628. * Joint first authors; # joint corresponding authors.
- 4) **Lill, R.** (2009). Function and biogenesis of iron-sulphur proteins. **Nature** **460**, 831-838.
- 5) Netz, D.J.A., Stümpfig, M., Doré, C., Mühlhoff, U., Pierik, A.J. & **Lill, R.** (2010). Tah18 transfers electrons to Dre2 in cytosolic iron-sulfur protein biogenesis. **Nature Chem. Biol.** **6**, 758-765.
- 6) Stehling, O.*, Vashisht, A.A.*, Mascarenhas, J., Jonsson, Z.O., Sharma, T., Netz, D.J.A., Pierik, A.J., Wohlschlegel, J.A.#, & **Lill, R.#** (2012). MMS19 assembles iron-sulfur proteins required for DNA metabolism and genomic integrity. **Science** **337**, 195-199. * Joint first authors; # joint corresponding authors.
- 7) Stehling, O., Mascarenhas, J., Vashisht, A.A., Sheftel, A.D., Niggemeyer, B., Rösser, R., Pierik, A.J., Wohlschlegel, J.A., & **Lill, R.** (2013). Human CIA2A-FAM96A and CIA2B-FAM96B integrate iron homeostasis and maturation of different subsets of cytosolic-nuclear iron-sulfur proteins. **Cell Metab.** **18**, 187-198.
- 8) Srinivasan, V., Pierik, A.J., & **Lill, R.** (2014). Crystal structures of nucleotide-free and glutathione-bound mitochondrial ABC transporter Atm1. **Science** **343**, 1137-1140.
- 9) Freibert, S.A.*, Goldberg, A.V.*, Hacker, C., Molik, S., Dean, P., Williams, T.A., Nakjang, S., Long, S., Sendra, K., Bill, E., Heinz, E., Hirt, R.P., Lucocq, J.M.#, Embley, T.M.#, & **Lill, R.#** (2017). Evolutionary conservation and in vitro reconstitution of microsporidian iron-sulfur cluster biosynthesis. **Nat. Commun.** **8**, 13932. * Joint first authors; # joint corresponding authors.
- 10) Stehling, O., Jeoung, J.H., Freibert, S.A., Paul, V.D., Bänfer, S., Niggemeyer, B., Rösser, R., Dobbek, H., & **Lill, R.** (2018). Function and crystal structure of the dimeric P-loop ATPase CFD1 coordinating an exposed [4Fe-4S] cluster for transfer to apoproteins. **Proc. Natl. Acad. Sci. U.S.A.** **115**, E9085-E9094.

Research Interests

Function and biogenesis of mitochondria; post-translational modification; iron-sulfur protein biogenesis in mitochondria, cytosol and nucleus; structure and function of iron-sulfur proteins; transport across the mitochondrial membranes; intracellular iron homeostasis; transcriptional and post-transcriptional control of iron uptake and regulation; structure and function of ABC

transporters, mitochondrial carriers, Isu scaffold proteins, ferredoxins, Hsp70 chaperones, glutaredoxins, P-loop ATPases, WD40 proteins, and hydrogenase-like proteins; intracellular redox control; Friedreich's ataxia; iron storage diseases.

Private

9. Oct. 1955 Born in Öhringen/Württ. (Germany)
1986 Married to Angelika Haag-Lill, geb. Haag, music therapist
Children: Michael (1987), Daniel (1989), Sandra (1992)